WHAT IS CLAIMED IS:

1. A streptococcal choline binding protein wherein the protein is expressed by *Streptococcus* and has the following characteristics:

a) choline-binding activity; and

b) elution from a chromatographic column in the presence of at least about 10% choline;

with the proviso that the streptococcal choline binding protein is not PspA or autolysin (LytA).

2. The streptococcal choline binding protein of claim 1, having one or more of a characteristic selected from the group consisting of:

c) inhibiting adherence of the bacteria to host cells;

d) being reactive with sera from patients infected or recovering from infection with the bacteria;

e) being reactive with rabbit antisera generated against pneumococcal proteins isolated from a choline affinity column by elution in at least about 10% choline; and

f) being labeled by fluorescein isothiocyanate (FITC) without requiring streptococcal lysis (*i.e.*, in intact bacteria).

3. The streptococcal choline binding protein of Claim 1 which is isolated from *Streptococcus pneumoniae*.

4. The streptococcal choline binding protein of claim 3 which has an apparent molecular weight by at least about 10% SDS-PAGE selected from the group consisting of: 112 kDa, 90 kDa, 84 kDa, 70 kDa, and 50 kDa.

5. The streptococcal choline binding protein of Claim 1 which has a partial amino acid sequence selected from the groups consisting of SEQ ID NOS:1-10, SEQ ID NO:19, SEQ ID NO:21 and SEQ ID NO: 25.

6. The streptococcal choline binding protein of Claim 1 labeled with a detectable label.

7. A streptococcal choline binding protein having an amino acid sequence of SEQ ID NO:19.

8. A streptococcal choline binding protein having an amino acid sequence of SEQ ID NO:25.

9. A vaccine comprising the streptococcal choline binding protein of claim 1 and a pharmaceutically acceptable adjuvant.

10. The vaccine of claim 9, further comprising an antigen selected from the group consisting of:

a) a different streptococcal choline binding protein;

b) PspA;

c) autolysin (LytA); and

d) any combination of one or more of the foregoing.

11. A pharmaceutical composition comprising a streptococcal choline binding protein of claim 1 and a pharmaceutically acceptable carrier.

12. The pharmaceutical composition of claim 11, further comprising an active ingredient selected from the group consisting of:

a) PspA or autolysin (LytA);

b) an antibiotic;

c) an anti-streptococcal choline binding protein vaccine, wherein the choline binding protein has the following characteristics:

i) choline-binding activity; and

ii) elution from a chromatographic column in the presence of at least about 10% choline;

with the proviso that the streptococcal choline binding protein is not PspA or autolysin (LytA);

d) a steroid; and

e) an anti-streptococcal vaccine.

13. A purified antibody to a streptococcal choline binding protein which choline binding protein has the following characteristics:

a) choline-binding activity; and

b) elution from a chromatographic column in the presence of at least about 10% choline;

with the proviso that the streptococcal choline binding protein is not PspA or autolysin (LytA).

14. A monoclonal antibody to the streptococcal choline binding protein of claim 1.

15. An immortal cell line that produces a monoclonal antibody according to Claim 14.

16. The antibody of Claim 14 labeled with a detectable label.

17. The antibody of Claim 16 wherein the label is selected from the group consisting of an enzyme, a chemical which fluoresces, and a radioactive elements.

18. A pharmaceutical composition comprising an antibody to a choline binding protein of claim 1 and a pharmaceutically acceptable carrier.

19. A purified nucleic acid which encodes the streptococcal choline binding protein of claim 1, or a fragment thereof of at least 15 nucleotides.

20. The nucleic acid of claim 19 which is a DNA molecule having a nucleotide sequence selected from the group consisting of:

a) a DNA sequence encoding a polypeptide having sequence as depicted in SEQ ID NOS:1-10, or 19 or 21 or 25;

b) a DNA sequence that hybridizes to the DNA sequence of (a) under highly stringent hybridization conditions; and

c) a DNA sequence that encodes an amino acid sequence encoded by the foregoing DNA sequences of (A) or (B).

21. A recombinant DNA molecule of claim 20.

22. The recombinant DNA molecule of claim 21, which has a nucleotide sequence as depicted in SEQ.ID NO:18 from nucleotide 1 through the stop codon TAA.

23. The recombinant DNA molecule of claim 21, which has a nucleotide sequence as depicted in the coding region of SEQ ID NO: 24.

24. The recombinant DNA molecule of claim 22, wherein the DNA molecule is operatively linked to an expression control sequence.

25. An oligonucleotide capable of screening for a nucleic acid encoding the streptococcal choline binding protein in alternate species prepared from the nucleic acid of claim 19.

26. A unicellular host transformed with a recombinant DNA molecule of claim 24.

27. A nucleic acid vaccine comprising the recombinant DNA molecule of claim 24.

28. A method for detecting the presence of a streptococcal choline binding protein of claim 1, wherein the streptococcal choline binding protein is measured by:

a) contacting a sample from in which the presence or activity of the streptococcal choline binding protein is suspected with an antibody to the streptococcal choline binding protein under conditions that allow binding of the streptococcal choline binding protein to the binding partner to occur; and

b) detecting whether binding has occurred between the streptococcal choline binding protein from the sample and the antibody;

wherein the detection of binding indicates that presence or activity of the streptococcal choline binding protein in the sample.

29. A method for detecting the presence of a bacterium having a gene for a streptococcal choline binding protein of claim 1, comprising:

a) contacting a sample in which the presence or activity of the bacterium is suspected with an oligonucleotide which hybridizes to the streptococcal binding protein gene under conditions that allow specific hybridization of the oligonucleotide to the gene to occur; and

b) detecting whether hybridization has occurred between the oligonucleotide and the gene;

wherein the detection of hybridization indicates that presence or activity of the bacterium in the sample.

30. A method for preventing infection with a bacterium that expresses a streptococcal choline binding protein comprising administering an immunogenically effective dose of a vaccine of claim 9 to a subject.

31. A method for preventing infection with a bacterium that expresses a streptococcal choline binding protein comprising administering an immunogenically effective dose of a vaccine of claim 27 to a subject.

32. A method for treating infection with a bacterium that expresses a streptococcal choline binding protein comprising administering a therapeutically effective dose of a pharmaceutical composition of claim 11 to a subject.

33. A method for treating infection with a bacterium that expresses a streptococcal choline binding protein comprising administering a therapeutically effective dose of a pharmaceutical composition of claim 18 to a subject.

34. A pharmaceutical composition comprising an inhibitor of streptococcal adhesion to fibronectin selected from the group consisting of a peptide of not more than 15 amino acid residues having the amino acid sequence WQPPRARI (SEQ ID NO:11), an enolase, and an antibody specific for the amino acid sequence WQPPRARI.

35. A method for treating infection with a bacterium that expresses a streptococcal choline binding protein comprising administering a therapeutically effective dose of a pharmaceutical composition of claim 34 to a subject.

36. A method for treating infection with a bacterium that expresses a streptococcal choline binding protein comprising administering a hindered cationic small molecule that inhibits streptococcal adhesion to fibronectin.

37. The method according to claim 36 wherein the hindered cationic small molecule is selected from the group consisting of lysine, choline, and arginine.

38. The method according to claim 36 wherein the hindered cationic small molecule inhibits binding of an enolase to fibronectin.

39. A method for treating infection with a bacterium that expresses a streptococcal choline binding protein comprising administering pulmonarily an adhesion inhibitory agent selected from the group consisting of a choline binding protein having the following characteristics:

a) choline-binding activity; and

b) elution from a chromatographic column in the presence of at least about 10% choline;

with the proviso that the streptococcal choline binding protein is not PspA or autolysin (LytA), an antibody to a choline binding protein, an enolase, a hindered cationic small molecule, the peptide WQPPRARI (SEQ ID NO:11), and an antibody specific for an epitope having the amino acid sequence WQPPRARI (SEQ ID NO:11).

40. The method according to claim 39 wherein the hindered cationic small molecule is selected from the group consisting of lysine, choline, and arginine.